



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/361,458 | 07/27/1999 | JONATHAN H. MEIGS | 30-4590 | 5541 |

7590

11/22/2002

RICHARD S. ROBERTS
ROBERTS & MERCANTI, L.L.P.
P.O. BOX 484
PRINCETON, NJ 08542-0484

EXAMINER

EASTHOM, KARL D

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 11/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/361,458

Applicant(s)
Meigs et al.

Examiner
Karl Easthom

Art Unit
2832



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 15, 2002
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 21-29 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 21-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

1. This action replaces that of 8/2/02 with a new statutory period of response.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

3. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Grazen. Grazen discloses the claimed invention at col. 1, lines 1-20, with non-conductive particles comprising oxides of aluminum immersed in a nickel, copper, silver, gold and other metals, made by co-electrodeposition. In claim 5, the variable particle content at col. 5, lines 25-35 renders the resistivity inherently "about" what is claimed.
4. Claims 1-3, 5-6, 8, 11, 22-24, and 27-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Dash. Dash discloses the claimed invention at the abstract, with non-conductive particles comprising alumina, immersed in copper, made by co-electrodeposition. In claim 5, since alumina is at 2 %, the resistivity is "about" what is claimed. In claims 6, 11, the copper metal layer is disclosed as a metal sheet at col. 2, lines 10-15.
5. Claims 1-11 and 21-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Hunt et al. Hunt discloses the claimed invention at the abstract and cols. 22-24, see col. 24, lines 44-50 for the nonconductive particulate material (eg. alumina). In claims 6-7, 11, and 28-29, the foil is copper 403 at Fig. 5b, see col. 28, lines 34-43. In claims 3-10, copper and other metals are

disclosed at col. 22. In claim 21, col. 22 discloses nickel. In claims 22-23, the range is met since the wt % is varied, see col. 25, lines 19-27. The product by process of electrodeposition does not render the claimed subject matter distinct, where the only allegation of any structural difference is that electrodeposition produces crystalline products. Hunt discloses that crystals are produced by the CVD process at high substrate temperatures at col. 25, lines 5-30, and at col. 16, lines 33-45.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4, 7, 26 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dash in view of Grazen. Dash discloses the claimed invention at the abstract except for the specific conductive materials and metals. As noted above, Grazen discloses many plating metals and also a plated steel background as a metal to be coated, see col. 2, lines 55-65. It would have been obvious not to use copper and use a different metal where any metal can be plated, and to coat with any known conductor, depending on the application, where Grazen lists many conductive materials for plating.

8. Claims 1-11 and 21-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over XP '182 in view of Hunt et al., further in view of Grazen or Dash. XP '182 discloses the claimed invention at the abstract except for the material of the metal layer (as to claims 6, 11) and specific materials of the particles and conductive material (as to all claims). Hunt discloses a

similar article to that of XP '182 - a resistor with nonconductive particles immersed in a metal, placed on a foil for use in a circuit board, disclosing that many types of non-conductive particles can be used to be immersed in a metal background to enhance a resistor. Dash at col. 1, or Grazen at col. 2 disclose the same electrodeposition method of XP'182 of to form conductive articles such as contacts or electrode coatings having nonconductive insulator particles therein immersed to give the conductor strength and corrosion resistance, and usable on any type of metal layer. Of course, conductors such as that of Dash or Grazen are simply resistors of lower relative resistivity, as is well known and taught at the abstract of XP'182 where the relative amount of non-conductor controls the resistivity. It would have been obvious to form a circuit board as a laminate with a foil of any of the known conductors typically employed for the circuitry, and to use the materials of Hunt for the resistive materials of XP '102 where a similar structure as that of XP '182 is employed to obtain of a high ohmic value, and where Grazen or Dash disclose using the non-conductive particles and metallic conductors of Hunt to produce conductors for abrasion resistance. It is further noted that the non-conductors of Hunt are disclosed at Grazen as good electrically inert particles at cols.1-2 and useful in a process such as that of XP '102 for making conductors stronger and more corrosion resistant..

9. Applicant's arguments filed 10/15/02 and earlier have been fully considered but they are not persuasive in full, or moot. Applicant alleges that Hunt employs different processes so that the claims are distinct. Applicant relies on evidence that crystals are produced by electrodeposition, and argues that different topography and chemical reactions take place.

There is no evidence as to the latter. As to the former, as noted, Hunt discloses the formation of

crystals. Since both methods produce crystals, applicant's arguments do not meet the burden of proving distinctness where there is no evidence as to any structural differences.

See MPEP 2113:

PRODUCT - BY - PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE IMPLIED BY THE STEPS

"Even though product - by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product - by - process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted)....

ONCE A PRODUCT APPEARING TO BE SUBSTANTIALLY IDENTICAL IS FOUND AND A 35 U.S.C. 102 / 103 REJECTION MADE, THE BURDEN SHIFTS TO THE APPLICANT TO SHOW AN UNOBVIOUS DIFFERENCE

"The Patent Office bears a lesser burden of proof in making out a case of *prima facie* obviousness for product - by - process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessmann*, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an UNOBVIOUS difference between the claimed product and the prior art product.

Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the *prima facie* case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best*, 195 USPQ 430, 433 (CCPA 1977).

See also *Titanium Metals Corp. v. Banner*, 227 USPQ 773 (Fed. Cir. 1985) (Claims were directed to a titanium alloy containing 0.2 - 0.4% Mo and 0.6 - 0.9% Ni having corrosion resistance. A Russian article disclosed a titanium alloy containing 0.25% Mo and 0.75% Ni but was silent as to corrosion resistance. The Federal Circuit held that the claim was anticipated

because the percentages of Mo and Ni were squarely within the claimed ranges. The court went on to say that it was immaterial what properties the alloys had or who discovered the properties because the composition is the same and thus must necessarily exhibit the properties.);

10. Applicant's amendment of 4/4/02 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl Easthom whose telephone number is (703) 308-3306. The examiner can normally be reached on M-Th from 5:30AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad, can be reached on (703) 308-7619. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


KARL D. EASTHOM
PRIMARY EXAMINER